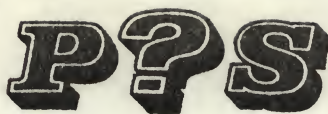




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| DECUS NO. | 8-466D |
| TITLE | RL MONITOR SYSTEM UTILITIES P?S-08-1.1D |
| AUTHOR | Mario DeNobili, et al Submitted by: Stanley Rabinowitz |
| COMPANY | Polytechnic Question Society Brooklyn, New York |
| DATE | March 1, 1971 |
| SOURCE LANGUAGE | PAL III |

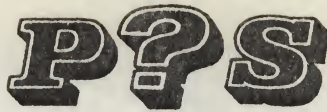
RL Monitor System UtilitiesPACK, UNPACK, and SYLIST, UPDATE

These **four** utilities are used to help the user add systems to an RL system tape. They should be used only by experienced systems programmers. Such programmers should first read the document, "RL Monitor Systems Programmers' Guide".

SYLIST: This program is used to obtain a quick, neat listing of the systems catalog on an RL tape. The source is in a file called SYLIST and the binary is in an RL binary file called BSYLIST. The program's starting address is 2000, so it may be executed by the command, RUN BIN,BSYLIST=2000. This program reads in the catalog and systems catalog of the tape currently mounted on unit 0 and begins by printing out the block number of the first user file (this is the last word of block 16). Then it prints out each entry in the systems catalog of that tape. Each entry consists of 4 items which are written across the page in the following order: System name (2 ASCII characters), block number of start of system, number of blocks used by system (in octal), starting address of system.

The listing can be interrupted at any time by hitting a character on the teletype. If a carriage return is hit and the switch register is zero, the program bootstraps; but if the switch register is not zero, the program restarts. This is useful after mounting a new tape. Any other characters struck are merely echoed. This is useful for adding comments to the listing such as the name of the tape mounted.

PACK and UNPACK: Sometimes, when you wish to add a new system to an RL system tape, you may find that there is not enough room after the last system and the first user file. Although you could add the system at the end of the tape, making the appropriate entry in the systems catalog, this is not recommended because the user might over-write it if he added enough user files. Thus what you want to do is move all his user saved files further along the tape, making the correct change to the last word of block 16 so that the system knows of your action. This process is automatically handled by the program UNPACK. The reverse procedure, moving the user files closer to the systems, is handled by the program PACK. The binary files corresponding to the source files PACK and UNPACK are called BPACK and BUNPCK respectively. Both of these programs work essentially the same way. Each starts at location 2000 and then halt. At this point you mount the tape upon which you want the work performed. Leave it write enabled. You then set the switch register to the number of blocks you wish the entire area for user saved files to be moved. (PACK moves them toward the beginning of the tape, whereas UNPACK moves them towards the end of the tape.) This must be a positive number. For example, if you need an extra 22₈ blocks at the end of the systems area, you would set the switch register to 22. You then hit start and the program begins. It will bootstrap when it is done. Before continuing, you should verify that it worked the way you wanted, by running SYLIST and/or DUMP.

RL Monitor System UtilitiesPACK, UNPACK, and SYLIST, UPDATE

UPDATE: UPDATE is a binary file used to add a new entry to (the end of) the systems catalog of an RL tape. The source is in a file called SYSTEM. Its starting address is 7400 and is thus executed by the command

RUN BIN,UPDATE=7400 .

The program immediately starts by reading in the systems catalog of the tape currently mounted on unit 0. It then waits for input. You then type in a new systems catalog entry which it will add to the systems catalog on the tape. Such an entry consists of four items:

1. The two character name of the system, in ASCII
2. A four-digit octal number representing the number of the block where the system will start.
3. A four-digit octal number representing (uses twos complement notation) the complement of the number of blocks the system will occupy.
4. A four-digit octal number representing the starting address of the system.

Typing errors may not be corrected, but the program may be restarted at location 7400.

After each entry item is typed in, the computer automatically performs a carriage return line feed sequence so that you need not do so; however each entry item typed must be the correct number of characters long (2, 4, 4, and 4 respectively).

After you have typed in one entry (consisting of 4 items), you may then type in another entry if desired. All such entries will be added to the end of the existing systems catalog in order.

When you are through making all your additions, you write enable the tape and type a carriage return. This writes the new systems catalog back on the tape and then bootstraps.

Note: The P?S offers you these programs merely because they are available, but does not endorse them. The P?S recommends that you use the more versatile DUMP program while fooling around with the systems catalog of an RL tape.

Note 2: UPDATE only adds to the systems catalog. It is still the responsibility of the systems programmer to get the system itself (as a core image) onto the correct blocks of the tape. This can be done using the dectape routines as described in the document, "RL Monitor Systems Programmers' Guide", or using the transfer option of the program DUMP if the desired system already exists as a system on another RL tape. After UPDATE is used, the results should be checked using DUMP or SYLIST.